



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

Y

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,514	03/01/2004	Henri V. Azibert	CTH-302	2753
959	7590	06/21/2006	EXAMINER	
LAHIVE & COCKFIELD 28 STATE STREET BOSTON, MA 02109			LEE, GILBERT Y	
			ART UNIT	PAPER NUMBER
			3673	

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/791,514	AZIBERT, HENRI V.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gilbert Y. Lee	3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 31 March 2006.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1,2,4-7,18-24,29,32,33,35,37 and 38 is/are pending in the application.

4a) Of the above claim(s) 39-42 is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1,2,4-7,18-24,29,32,33,35,37 and 38 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 31 March 2006 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input checked="" type="checkbox"/> Other: <u>Examiner's Attachments A&amp;B</u> .

## **DETAILED ACTION**

1. The amendment filed 3/31/06 has been entered.

### ***Priority***

2. This application is claiming the benefit of provisional application No. 60/450797 under 35 U.S.C. 119(e). However, this application was not filed within twelve months from the filing date of the provisional application, and there is no indication of an intermediate nonprovisional application that is directly claiming the benefit of the provisional application and filed within 12 months of the filing date of the provisional application.

Note: If the day that is 12 months after the filing date of the provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, the nonprovisional application claiming the benefit of the provisional application may be filed on the next succeeding business day.

Applicant is required to delete the reference to the prior-filed provisional application from the first sentence(s) of the specification or the application data sheet, depending on where the reference was originally submitted, unless applicant can establish that this application, or an intermediate nonprovisional application, was filed within 12 months of the filing date of the provisional application.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 39-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 39-42 rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Claims 39-42 lack any method steps to further limit the independent claim 32. The claims have been withdrawn on the merits.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Note for reference characters A and B refer to the Examiner's Attachments A &

B.

4. Claims 1, 2, 4, 5, 18-20, 23, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark et al. (US Patent No. 5,913,520).

Regarding claim 1, the Clark et al. reference discloses a mechanical seal (Fig. 2) for mounting to a housing (14) containing a rotating shaft (12), said mechanical seal comprising:

a gland (59);

at least one pair of seal members (e.g. 25 and 33) disposed at least partially within the gland, said seal members including a rotary seal ring (25) having a rotary seal face (Fig. 2) and a stationary seal ring (33) having a stationary seal face engaging the rotary seal face (Fig. 2); and

a shuttle member (e.g. 202) positioned relative to one of the rotary seal ring and the stationary seal ring (Fig. 2) and axially movable between a first position (Fig. 8B) and a second position (Fig. 8A) in response to changing pressure conditions within the mechanical seal (Col. 11 Line 45-Col. 12 Line 15), wherein the shuttle member is positioned adjacent a non-seal face of one of the seal rings when disposed in the first position and when subjected to a first pressure condition, and is axially separated from the non-seal face of the seal ring when disposed in the second position when subjected to a second pressure condition difference from said first pressure (Col. 11 Line 45-Col. 12 Line 15).

Regarding claim 2, the Clark et al. reference does not specifically disclose that the shuttle member (220) generates a biasing force, however, it is inherent that the shuttle member will generate a biasing force because the shuttle member will move between positions and abut other elements causing a biasing force.

Regarding claim 4, the Clark et al. reference discloses the shuttle member (220) disposed adjacent the stationary seal ring (Fig. 2).

Regarding claim 5, the Clark et al. reference discloses the shuttle member comprising a carrier (e.g. 202) having a first end portion (left portion of 202) and a second end portion (right portion of 202).

Regarding claim 18, the Clark et al. reference discloses a first piston area (A) defined by an outer edge of the radially extending seal face of one of the seal rings and an axially extending, inner surface of the shuttle member (Fig. 2), and

a second piston area (B) defined by an inner edge of the radially extending seal face of one of the seal rings and an axially extending, inner surface of the shuttle member (Fig. 2).

Regarding claim 19, the Clark et al. reference discloses the first piston area and the second piston area being **about** equal in size (See Examiner's Attachments A & B).

Regarding claim 20, the Clark et al. reference discloses the first piston area and the second piston area being smaller than a contact area of the rotary seal face and the stationary seal face (See Examiner's Attachments A & B).

Regarding claim 23, the Clark et al. reference discloses the gland comprising **means for** introducing a barrier fluid to the seal (Col. 11, Lines 10-27).

Regarding claim 29, the Clark et al. reference discloses the shuttle member abutting a shuttle stop (192) during the first pressure condition when the pressure of a process fluid in the seal is greater than the pressure of a barrier fluid in the seal to define a first piston area on the non-seal-face of the rotary seal ring (Col. 11 Line 45-Col. 12 Line 15).

Regarding claim 32, the Clark et al. reference discloses a mechanical seal (Fig. 2) for mounting to a housing (14) containing a rotating shaft (12), the mechanical seal including a gland (59); at least one pair of seal members (e.g. 25 and 33) disposed at least partially within the gland, said seal members including a rotary seal ring (25)

having a rotary seal face (Fig. 2) and a stationary seal ring (33) having a stationary seal face engaging the rotary seal face (Fig. 2); and a shuttle member (e.g. 202) positioned relative to one of the rotary seal ring and the stationary seal ring (Fig. 2), a method comprising:

axially moving the shuttle member between a first position (Fig. 8B) and a second position (Fig. 8A) in response to changing pressure conditions within the mechanical seal (Col. 11 Line 45-Col. 12 Line 15), wherein the shuttle member is positioned adjacent a non-seal face of one of the seal rings when disposed in the first position and when subjected to a first pressure condition, and is axially separated from the non-seal face of the seal ring when disposed in the second position when subjected to a second pressure condition difference from said first pressure (Col. 11 Line 45-Col. 12 Line 15).

Regarding claim 33, the Clark et al. reference does not specifically disclose that the shuttle member (220) generates a biasing force, however, it is inherent that the shuttle member will generate a biasing force because the shuttle member will move between positions and abut other elements causing a biasing force.

Regarding claim 35, the Clark et al. reference discloses disposing the shuttle member adjacent the stationary seal ring (Fig. 2).

Regarding claim 37, the Clark et al. reference discloses defining a first radially extending piston area (B) on the rotary seal ring for biasing the rotary seal ring against the stationary seal ring under the first pressure condition (Fig. 2), and

defining a second piston area (A) on the rotary seal ring for biasing the rotary seal ring against the stationary seal ring under the second pressure (Fig. 2).

Regarding claim 38, the Clark et al. reference discloses defining a first piston area (B) defined by an outer edge of the radially extending seal face of one of the seal rings and an axially extending, inner surface of the shuttle member (Fig. 2), and

defining a second piston area (A) defined by an inner edge of the radially extending seal face of one of the seal rings and an axially extending, inner surface of the shuttle member (Fig. 2).

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 2, 4-8, 18-24, and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Azibert et al. (US Patent No. 6,935,632)

The applied reference has a common Assignee with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claim 1, the Azibert et al. reference discloses a mechanical seal (100) comprising: a gland (130); a rotary seal ring (150) and a stationary seal ring (160); and a shuttle member (170).

Regarding claim 2, the Azibert et al. reference does not specifically disclose that the shuttle member (170) generates a biasing force, however, it is inherent that the shuttle member will generate a biasing force because the shuttle member will move between positions and abut other elements causing a biasing force.

Regarding claim 4, the Azibert et al. reference discloses the shuttle member (170) disposed adjacent the stationary seal ring (Fig. 9).

Regarding claim 5, the Azibert et al. reference discloses the shuttle member comprising a carrier having a first end portion and a second end portion (Fig. 9).

Regarding claim 6, the Azibert et al. reference discloses the carrier element comprising a groove (groove in which element 175 is situated) for seating a sealing element.

Regarding claim 7, the Azibert et al. reference discloses the sealing element being an O-ring (175).

Regarding claims 18-22, the Azibert et al. reference, as best understood from the drawings, discloses the mechanical seal further comprising: a first and second piston area (Fig. 9).

Regarding claim 23, the Azibert et al. reference, as best understood from the drawings, discloses the gland comprising a means for introducing a barrier fluid to the seal (Fig. 9).

Regarding claim 24, the Azibert et al. reference discloses a second pair of seal member (Fig. 9) including a rotary seal ring (151) and a stationary ring (161).

Regarding claim 29, the Azibert et al. reference discloses the shuttle member abutting the shuttle stop (Fig. 9). Note that in one position, the upwardly extending portion of element 160 will act as a shuttle stop or the downwardly extending portion of element 190 will act as a shuttle stop for another position.

### ***Response to Arguments***

6. Applicant's arguments filed 3/31/06 have been fully considered.

With regards to the applicant's argument of the priority, the argument is not persuasive because the application was filed more than a year after the filing of application no. 60/450797.

With regards to the applicant's arguments of the claims 32, 33, and 37-42, the arguments are found persuasive and the previous 112, section 2 paragraph and the 101 rejections have been withdrawn. Claims 32, 33, and 37-42 have been considered as method claims for the purposes of this examination.

With regards to the applicant's arguments of the Azibert et al. '632 reference, the arguments are not found persuasive because the Azibert et al. '632 is an appropriate 102(e) reference because the current application was filed more than a year after the filing of application no. 60/450797.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia L. Engle can be reached on (571)272-6660. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Patricia Engle  
SPE  
Art Unit 3673

GL  
6/9/06

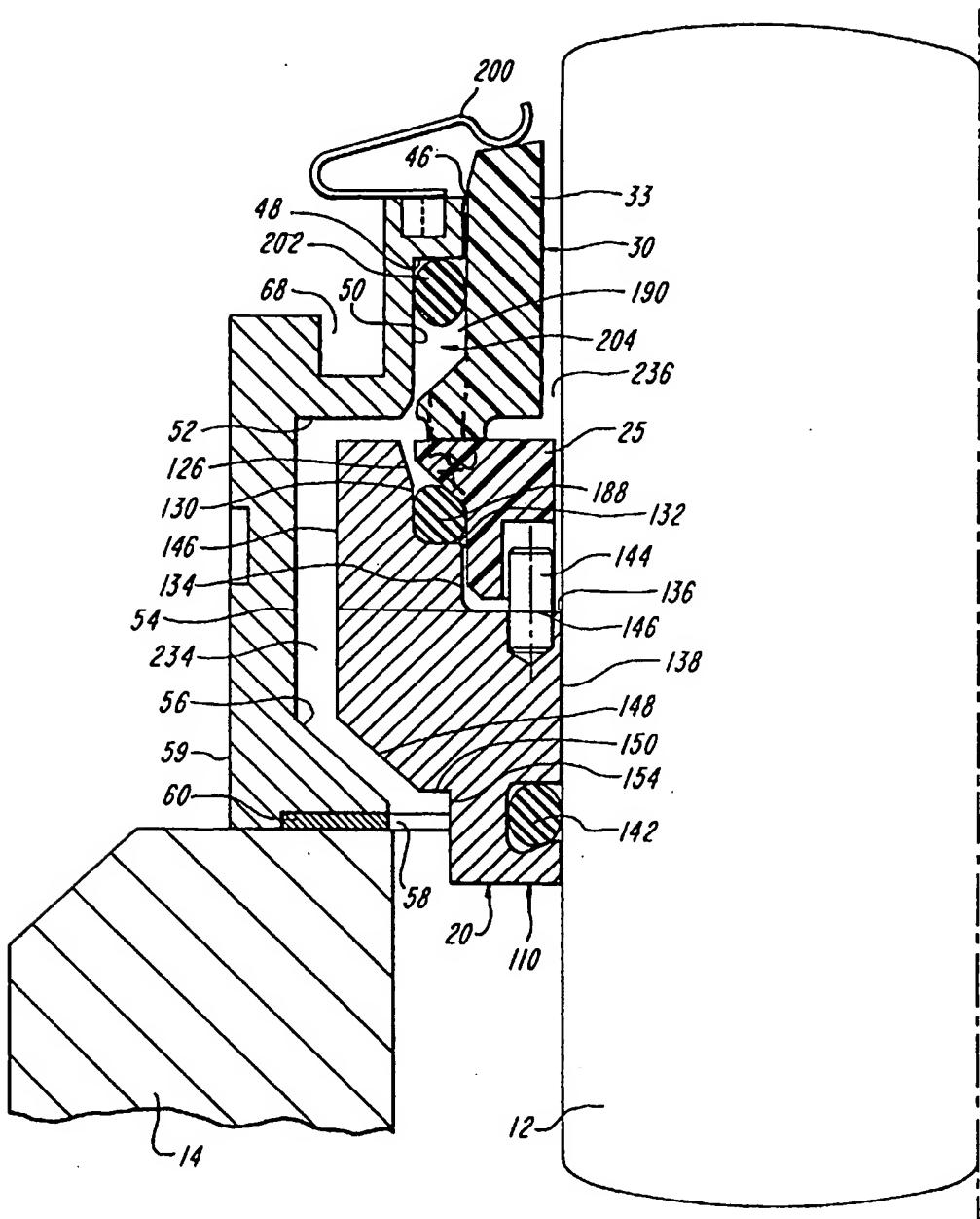
*Examiner's ATTACHMENT A*

**U.S. Patent**

Jun. 22, 1999

Sheet 2 of 7

**5,913,520**



***FIG. 2***

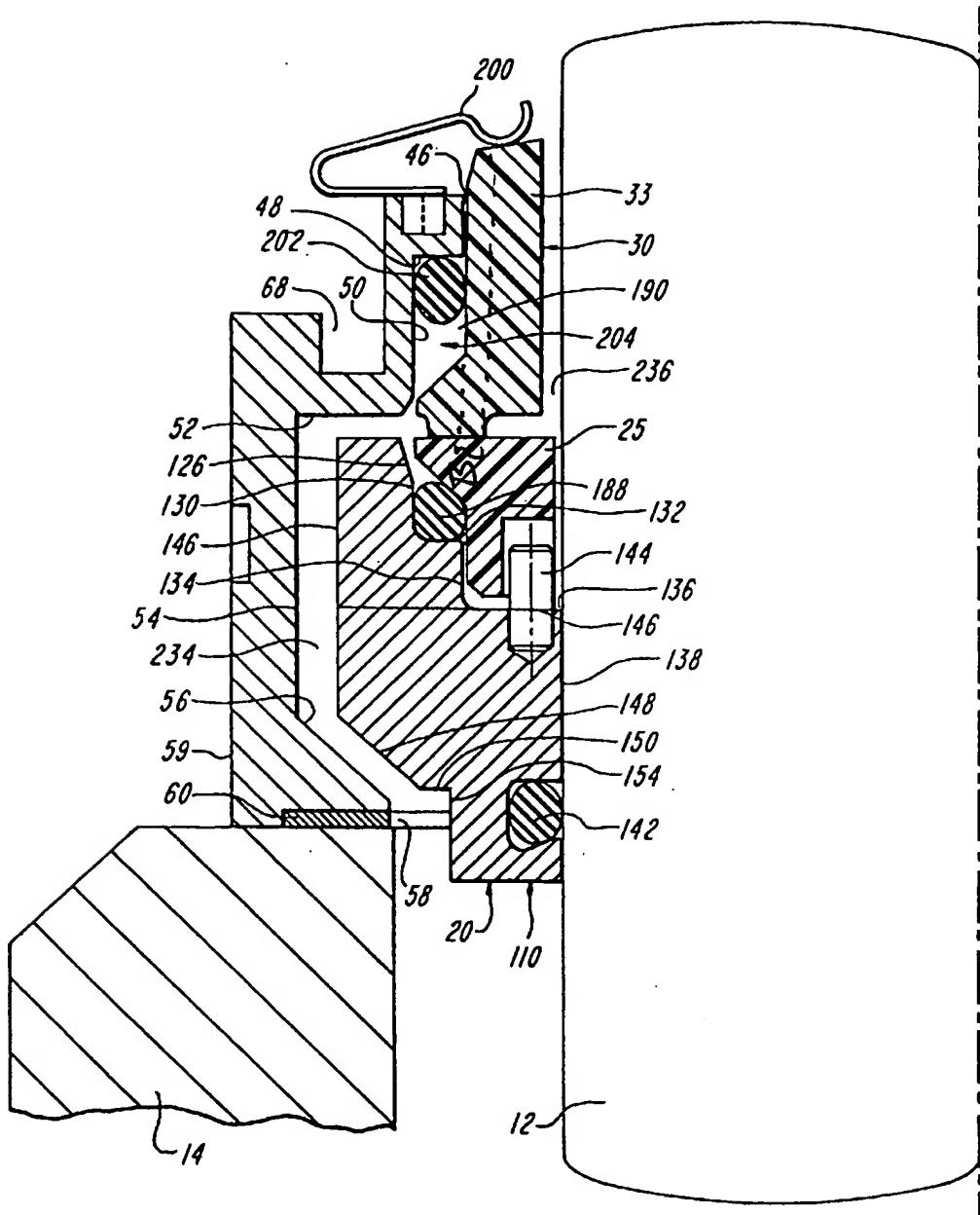
Examiner's ATTACHMENT B

U.S. Patent

Jun. 22, 1999

Sheet 2 of 7

5,913,520



***FIG. 2***